NetSuite integration overview
Web services, REST or ODBC?

Overview

While NetSuite is a robust enterprise resource planning (ERP) system with strong functional depth, business needs often require integrating to external data stores or software applications. While early-stage companies can get by manually moving data among systems, growth and complexity can lead to wasted staff time, along with the errors common to manual data entry. Sustaining growth for these companies often involves eliminating those inefficiencies and adopting more automated processes. Understanding the integration options and choosing the appropriate integration technique is critical to a successful solution. In this document, we will provide an overview, examples and arguments pro and con for each approach.

NetSuite integration examples

Following are examples of common NetSuite integration requirements that RSM has assisted customers with:

Third-party logistics providers (3PLs)
If you are shipping physical goods to your customers using an outsourced provider, you need to efficiently transfer information between systems. This often starts with a minimum of sales orders to the 3PL and item fulfillments back from them, then often expands to purchase orders, item receipts, return merchandise authorizations (RMAs) and inventory count. The transfers can also include work order and assembly and disassembly instructions.

External e-commerce solutions
Your company may be migrating to NetSuite and have a pre-existing custom e-commerce solution or use Amazon or another channel as a sales conduit. In either case, functions such as inventory, pricing, customer, sales order and item fulfillment will need to move in and out of NetSuite and the external store.

Industry-specific tools
A software company might use a ticketing and case management solution like Jira or have an in-house cloud-based software provisioning system that needs to communicate usage data back to NetSuite to drive invoice creation.

Advanced business intelligence
A growing organization may require a more robust business intelligence reporting solution that depends on data from multiple systems (including its NetSuite ERP system). To do this, the organization may opt to pull all or a partial set of raw data from NetSuite on regular intervals to an intermediate data store (data warehouse), allowing managers to merge multiple data sources.

Integration options with NetSuite

NetSuite provides several application programming interfaces (APIs) and methods of moving data into and out of the system. Each has unique advantages and the combination of techniques provides great flexibility to meet business needs. The following options are those most commonly used for automated integration.

- SuiteTalk API. Prebuilt web services
- RESTlets. Custom-built web services
- SuiteAnalytics Connect. Open database connectivity (ODBC) access module

SuiteTalk API—web services

What is it:
This is an XML–based SOAP–compliant web services API prebuilt by NetSuite and included with all accounts. The API calls are records focused within NetSuite and provide the functionality to perform the standard Create, Read, Update, and Delete actions on system objects. The API is very versatile and allows for synchronous communication, where processing is conducted immediately by NetSuite and a response provided; it also allows for asynchronous communication, where batches of records can be pushed and then checked later to retrieve the processing status. Authentication for the SuiteTalk web services is handled via a user login either by passing credentials during a web services login call or through single sign on. The calling user must have permissions for making SuiteTalk calls and also be authorized to perform any of the actions that may be requested through the API.

Pros and cons:
The SuiteTalk API is typically used for behind-the-scenes
create a single web services call centered on a business action. Advantages. RSM uses these often to build custom APIs that work best communicating JSON text objects, which have become a preferred communication method over XML in many development circles. NetSuite's RESTlets work well with the SuiteTalk API as well. A user credential for integration may only make a single web services call at a time. This becomes an issue with web applications where the load on the system may be unknown. NetSuite does offer a SuiteCloudPlus user license, which allows one, predetermined user up to 10 concurrent calls into the system.

Concurrency should be considered with the SuiteTalk API as well. A user credential for integration may only make a single web services call at a time. This becomes an issue with web applications where the load on the system may be unknown. NetSuite does offer a SuiteCloudPlus user license, which allows one, predetermined user up to 10 concurrent calls into the system.

Who uses it:
NetSuite specialists often use the SuiteTalk API because of the in-depth understanding of NetSuite record operations required to work with the tool. These specialists are typically service providers like RSM, software ISVs and larger NetSuite customers with in-house technical teams that are invested in learning the NetSuite platform. Any integration with the SuiteTalk API requires NetSuite-specific business logic to be stored in the integration layer. This works well with NetSuite customers that lack in-house technical teams and are outsourcing their integration.

RSM developed an integration middleware solution, CloudConnect, upon which all SuiteTalk client integrations are built. This is a great option for a customer that needs “white glove service” for the integration and wants to hand off the work for the most minimal impact on internal teams.

RESTlets

What is it:
RESTlets are customizable web services calls built on the NetSuite platform itself using the built-in SuiteScript API calls and JavaScript language. RESTlet services are one of the most modern web services types and are currently favored as a standard industry practice approach. NetSuite’s RESTlets work best communicating JSON text objects, which have become a preferred communication method over XML in many development circles. NetSuite accounts include the RESTlet framework for no additional fee. However, no prebuilt RESTlets are provided. It is necessary to develop RESTlets customized to the integration needs. User authentication is required for RESTlets, but simultaneous calls are allowed from a single login with up to 50 concurrent calls into a single NetSuite account allowed. Single sign on is an option for use with RESTlets as well.

Pros and cons:
The customizable nature of RESTlets is one of their biggest advantages. RSM uses these often to build custom APIs that create a single web services call centered on a business action that consolidates what may have required dozens of SuiteTalk calls to accomplish. This provides the additional advantage of abstracting the exposed API call to the specifics of NetSuite and allowing NetSuite-specific business logic to be isolated within the RESTlet. This relieves the developers who are calling the API and NetSuite from needing to ramp up on the NetSuite system. This results in more of a shared work effort between the client development team and RSM than when our CloudConnect service is used.

Who uses it:
RSM often develops RESTlets for customers that have their own development teams but need to make those teams more efficient. The customers want to create and maintain the actual integration themselves but wish to streamline their efforts to connect their own applications to NetSuite. RSM has developed and deployed RESTlet solutions that handle tens of thousands of transactions per day.

SuiteAnalytics Connect—ODBC

What is it:
This is an optional module from NetSuite that provides read-only access to views of the underlying database. The number of views is dependent on the customizations present and modules provisioned for an account. When new custom fields or custom records are added to a NetSuite account, they are automatically added to ODBC views.

Pros and cons:
The SuiteAnalytics Connect module is a great method to easily obtain access to all the data within a NetSuite account. Tools can be used to replicate the entire NetSuite dataset or just part to an external database. Downsides to the solution can include performance issues with larger, data-volume NetSuite accounts.

All transactional records and lines are consolidated into the same tables, so queries can be challenging for users not very familiar with the NetSuite object model.

Who uses it:
RSM has developed a CloudConnect ODBC Sync Module, which provides a synchronized Microsoft SQL Server or MySQL database mirror of the NetSuite ODBC data. Customers use this solution for business intelligence, data migration and backup needs. Any performance limitations are eliminated for BI solutions by replicating the ODBC data to an external database. RSM has used the SuiteAnalyticsConnect module and CloudConnect to replicate NetSuite accounts in excess of 150GB in size.

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I wanted to thank you for your support on the NetSuite integration project. It was a difficult project with all different parties involved, but with your support we were able to complete the project under the initial estimate. Thanks again, and I look forward to a continued successful working relationship.”

- Ed Benzio, Information Technology, Baan Admin, Piper Aircraft, Inc.